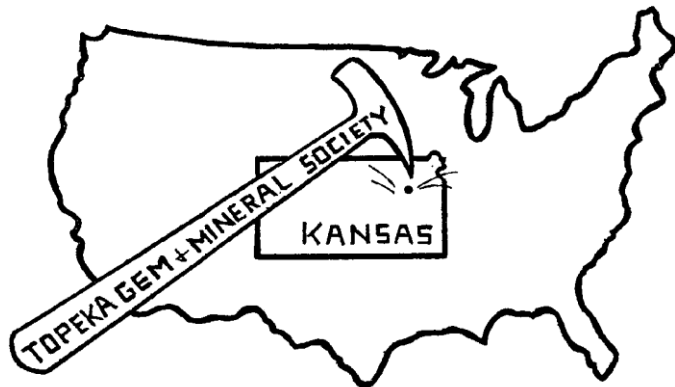


THE GLACIAL DRIFTER



www.topekagemandmineral.org

Facebook: Topeka Gem and Mineral Society Field Trips



The Glacial Drifter, Vol. 56, No. 1, January 2013
 The Topeka Gem & Mineral Society, Inc.
 Organized December 3, 1948

Member of Rocky Mountain Federation of Mineralogical Societies
 American Federation of Mineralogical Societies

The Purpose of the Topeka Gem & Mineral Society shall be exclusively educational and scientific: (1) to promote interest in geology and the lapidary arts; (2) to encourage the collection and display of rocks, gems, and minerals; (3) to encourage field trips and excursions of a geological, or lapidary nature; (4) to encourage greater public interest and education in gems and minerals, cooperating with the established institutions in such matters.

Meetings: 4th Friday of each month, except December, unless notified of a change, September – May, 7:30 pm, Stoffer Science Hall, Room 138, Washburn University. Picnic meetings held during summer months, June – August.

Dues: Individual, \$15.00; Husband and wife, \$20.00; Junior (under 18 years of age), \$5.00. Dues are due in December for the coming year; they are delinquent after the January meeting. Send dues to Millie Mowry, Treasurer 1934 SW 30th St., Topeka, KS 66611.

2012 OFFICERS AND CHAIRS

President	Mike Cote`	220-3272	Cab the Month	Debra Franz/Fred Zeferjohn	862-8876
1 st Vice Pres.	Dave Dillon	272-7804	Field Trip Coordinator	Larry Henderson	272-8444
2 nd Vic Pres.	Carolyn Brady	233-8305	Publicity	Christy Bien	608-1890
Secretary	Cinda Kunkler	286-1790	Welcome/Registration	Debra Franz	862-8876
Treasurer	Millie Mowry	267-2849	Property	M. Cote`/D. Dillon	220-3272
Directors	Clyde Burton	478-4778	AFMS Scholarship	Louellen Montgomery	354-1290
	George Reed	836-9277	Editor/Exchange Editor	Millie Mowry	267-2849
	Harold Merrifield	286-3548	Show Chairman	Harold Merrifield	286-3548
Historian	Deborah Scanland	273-3034	Show Dealer Chrm.	Dave Dillon	272-7804
Federation Rep	Harold Merrifield	286-3548	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849			
Librarian	Jim & Millie Mowry	267-2849			

Area Code for all numbers is 785.

Meeting of the Topeka Gem and Mineral Society – 11/16/12

Mike Cote' called the meeting to order.

There are 24 members and 7 guests (some joining) present. Guests were introduced and door prizes were awarded.

There was a correction to Oct minutes – spelling Rollo MO. Carolyn Brady moved and Jason Schultz 2nd to accept the minutes of our last meeting as printed in The Drifter, motion carried.

Millie Mowry gave the treasurers report. Mike Scott moved and Dave Dillon 2nd to accept the report, motion carried. No bills were presented.

Correspondence: Louellen received a letter from RMFS reporting our check from the scholarship table & grab bag for \$358.50 took the club to a level of giving 11,400% with an additional \$103.62 toward the next level. There are also Kingsley catalogue & Gems for I-Pods. Dave had a call from Bill Meyers wanting to donate all kinds of equipment to the club, but we would have to come pick it up in Keller TX
Committee reports: Nominating committee reported that all current officers are willing to serve again in 2013 and nominated Harold Merrifield to be one of the Directors. Marion Brown nominated Lucy Sterpenig for President. Nominations were closed and ballots distributed. After ballots were counted Mike Scott announced current officers will serve again and Harold will be added as a Director.

Millie is accepting dues. Our Christmas dinner will be at Golden Corral 6:00 Friday Dec 7. We will install offices and present the Member of the Year Award.

With no further business Dave moved and Cinda 2nd to adjourn to our program – Mark Ellis reporting on the Dinosaur Digs that he participated in as a volunteer.

Fred Zeferjohn announced the Cab of the Month Winners are:

Member Cab: Dave Dillon – Picture Jasper, Member Jewelry: Dave Dillon – Dino Bone Necklace, Class Cab: Alex Hall – Lake Superior, Class Jewelry: Christy Bien – Purple Goldstone & Sterling Pendant.

Respectfully submitted by Cinda Kunkler, Secretary

From the President

Well it's the beginning of a new year. I hope to see a lot of you all at the meetings . The classes will be canceled for the winter months. Will begin in the spring time . I hope everyone is staying warm and fit. See you all at this meetings Mike Cote and his rock stash

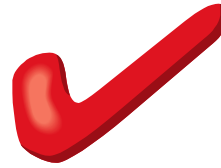
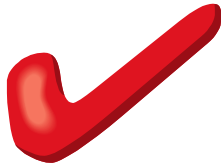
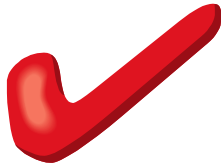
LESSONS

Hope everyone had a great holiday break! We are looking for any new ideas for our club. Let us know how we can improve and get some more new members. Still no classes until the weather warms up some more. Mike and I will let you know when classes will start again! Dave

Dave Dillon, davidd5124@aol.com Mike Cote`, mcote35@yahoo.com

*** Attention Members ***

To save some money we are going to start sending out the Drifter by email. To be sure you receive yours.....make sure we have the correct email address. If you do not receive your copy.....or can not open it...contact Millie at rock2plate@aol.com or you can also go to the website to get a copy. www.topekagemandmineral.org



Your dues is due, as of January 1, 2013. If you joined in October – December 2012, your dues is not due. If you are in question as to, or, if you have paid, check with Millie, at rock2plate@aol.com or call 267-2849.

The Board has approved a Release of Liability form that each member will need to sign. It will be effective immediately and available at the next meeting and sent with the paper copies of the Drifter. Please sign and return a.s.a.p. to Millie or any officer of the club.

Dates to Remember



January 25, 2013 General Meeting held at Stauffer Science Hall, Rm. 138 at Washburn University, 7:30 p.m. The January meeting program will be the annual silent auction. Clean out all your unwanted rock, fossils, or whatever and donate them to the auction. Everyone! Bring lots of quarters!!

January 26, 2013 Lincoln Gem & Mineral Club Rock Swap, 1 – 5 p.m., Bethany Park Shelter, 64th & Vine St., Lincoln, NE. Free admission.

March 15-17, 2013, Gem Show Kansas City, KCI EXPO Center 11730 NW Ambassador Dr.

\$1.00 OFF	52nd Annual Greater Kansas City GEM & MINERAL SHOW March 15th, 16th & 17th, 2013	\$1.00 OFF
FREE PARKING	KCI EXPO Center 11730 NW Ambassador Dr. Exit 112th St off I-29 or KCI Exit off I-435	FREE PARKING
Admissions:	Multi-day tickets available:	Show Hours:
Adults: \$6.00	3 day pass...\$14.00	9:00am to 8:00pm FRI.
Children 5-12: \$3.00	2 day pass...\$10.00	10:00am to 7:00pm SAT.
Under 5: Free		10:00am to 5:00pm SUN.
www.kcgemshow.org or www.gemshowkc.org		
One Coupon Good For Entire Group or Family		

March 15, K C Gem & Mineral Show 8:30 a.m. McDonalds Leave at 9:00 a.m. We will car pool to Kansas City Expo Center near KC International airport for the spring show.

April 6 – 7, 2013 Lincoln Gem & Mineral Show, Lancaster Event Center 84th & Havelock, Lincoln, NE.

Field Trips

Trips dates are tentative and subject to additions and change. Call or e-mail Larry if you have an interest in any of these trips 272-8444 or LHenderson85@gmail.com We meet at McDonalds, 11th and Kansas Ave.

Tuesday night coffee, first and third Tuesday night, meets at Classic Bean, Fairlawn Shopping Center, 7:00 p.m. We will discuss fossils and other collections.

Dates are: February 5th and February 19th for Coffee and Show & Tell
March 5th, and March 19th, Coffee and Show & Tell

February 23, Trip to the Sternberg Museum <http://sternberg.fhsu.edu/> 7:30 a.m. McDonalds Leave at 8:00 a.m.

March 23, Local Field Trip TBA 8:30 a.m. McDonalds Leave at 9:00

April 5-7, Fossil Expo, Iowa City, Iowa

May 3-5, McPherson Gem & Mineral Sale & Swap

May 17-19, South Dakota, for Fairburn Agate, with a stop at Ashfall Fossil Beds Nebraska State Historical Park.

We need your **BEST CHOICE** UPC Labels --- Bring them to the monthly meeting.





ATTENTION SEWERS

A GREAT BIG THANK YOU, goes out to Ernie Rogers who recently cleaned out her fabric stash and donated the material for the 710 grab bags that are ready to sew. We are in the need of a few people that can sew or can't, to press, tie and turn grab bags inside out. We need, 2 to sew, 2 to press, 1 or 2 to tie & turn and one to cut the cords.

No, we don't need all of them done at this time but would like to get as many as possible done before the show. If you are willing to help out- email Millie at rock2plate@aol.com or call 267-2849. Thanks to Ernie we will have bags ready for the next few years.

Minerals in the Spring

by Andrew A. Sicree, Ph.D

Mineral springs

Travel the back roads and by-ways of America and before long you will encounter a town or hamlet bearing the name “Mineral Springs.” Sometimes the town name is more specific, such as “Alum Springs” in Virginia or “Radium Springs,” a town of about 1700 residents northwest of Las Cruces, New Mexico. Towns bearing the name “Sulfur Springs” appear in Texas, California, and Kentucky, as well as other states, and there is a village called “Hot Sulfur Springs” in Colorado. This is only a small sampling of the “Mineral Springs”-type place names that speckle America. As one might suspect, these towns are named for nearby mineral springs. But what is a mineral spring and how does it differ from an ordinary spring?

A little hydrology

Rain falls on the ground and that which doesn't evaporate or run into nearby streams, percolates underground. Once below ground, rainwater will descend to the “water table” which is the upper surface of what is called the “saturated zone” underground. In the saturated zone water fills all of the cracks and joints in the bedrock and all of the spaces between grains of sediments.

If the saturated zone (the water table) comes to the surface at any point, water can flow out of the ground. The water table hits the ground surface at the banks of many streams and ponds and they gain water from underground. This, by the way, is what keeps many streams flowing even when it has been weeks since the last rainfall.

When the water table intersects with the ground surface at points uphill from the local streams, springs will result. Water will seep out of the ground and trickle downhill to the nearby streams. Often, but not always, these springs produce good quality water and they were utilized for drinking purposes. Many people still prefer to drink “spring water” and a good portion of the bottled-water industry exploits natural springs for this purpose.

Mister, can I drink from that waterhole?

Early settlers soon noticed that not all springs were so refreshing. Some springs were warm or even boiling – these we call “hot springs” – and others tasted bad, smelled worse, or were hard on the digestion. In a few cases, spring water might even be poisonous. There is more than just water coming out in these “mineral springs.” For instance, Wilson (James Wilson, A Collector's Guide to Rock, Mineral, and Fossil Localities of Utah, 1995) notes occurrences of springs made poisonous by dissolved selenium in the uranium-rich Poison Strip area east of Crescent Junction, Utah.

It wasn't long, however, before resourceful speculators and quack doctors decided to turn a liability into an asset by promoting mineral springs as healthful. Throughout the late 1800s and into the 1900s, patients suffering from a wide variety of ailments were sent off to spring-side sanitariums, spas, and resorts to “take the waters.” They swam and soaked in the springs and drank mineral waters for their therapeutic values. Health benefits may have been uncertain, but popular vacation resorts grew up around the springs as first one then the next became the trendy spot for the wealthy and famous. The popularity of mineral spring resorts continues to this day.

Where are the minerals?

Mineral springs produce more than just water. Water can dissolve minerals, and waters that contain a substantial portion of dissolved minerals are termed mineral waters. Typically, these waters contain gases, sulfur compounds, and a variety of salts. You may hear the term “total dissolved solids” or TDS used to describe the concentration of dissolved minerals. The US Environmental Protection Agency recommends that drinking water contain less than 500 parts per million (500 milligrams per liter of water) or total dissolved solids. Waters with more than 1500 ppm (1500 mg/L) TDS are labeled as having “high mineral content.”

So where do the dissolved solids originate? As ground water passes through rock, it will dissolve any minerals it encounters. Of course, many minerals (e.g. quartz, corundum, etc.) aren't very soluble, especially in cold water. Carbonate minerals such as calcite (CaCO_3) and dolomite ($(\text{Ca,Mg})\text{CO}_3$) and sulfate minerals such as gypsum

(CaSO₄·2H₂O) will dissolve, and halide minerals such as halite (NaCl) and sylvite (KCl) dissolve very readily. When a mineral like halite goes into solution in the groundwater, it dissociates into sodium (Na⁺) and chloride (Cl⁻) ions. Much of what makes up the total dissolved solids of many natural waters is in the form of ions such as calcium (Ca²⁺), magnesium (Mg²⁺), carbonate (CO₃²⁻), bicarbonate (HCO₃⁻), sodium (Na⁺), and chloride (Cl⁻) ions. If you evaporate these waters, compounds such as calcium carbonate (calcite) and sodium chloride (halite) will precipitate as solids. Warmer waters found in thermal springs will dissolve more minerals than cooler water and at higher temperatures even sparingly soluble minerals like quartz begin to dissolve.

Types of mineral springs

Not all “mineral springs” are the same. Some are called “sweet springs” but because the water is quite low in dissolved solids, they scarcely deserve to be called mineral springs.

Alum is KAl(SO₄)₂·12H₂O and alum springs contain higher levels of potassium (K⁺), aluminum (Al³⁺), and sulfate (SO₄²⁻) ions. You may be familiar with synthetic crystals of alum that are often sold at mineral shows. Alum can also be found in your grocery store with the canning supplies. Drinking water from alum springs can give one diarrhea and other gastrointestinal problems.

Chalybeate springs produce ferruginous, or iron-rich, waters. Containing dissolved iron(II) carbonate (siderite) and manganese(II) carbonate (rhodochrosite), the water has a distinct taste of iron. Among the notable chalybeate springs are Tunbridge Wells in England and the Sweet Chalybeate Springs of Allegheny County, Virginia.

Sulfur (sulphur) springs are notable for their strong rotten egg smell. Dissolved hydrogen sulfide (H₂S) escapes from the water and gives it a brimstone odor. Our noses are extremely sensitive to hydrogen sulfide and we can detect extraordinarily low levels of hydrogen sulfide in air (most people can discern it at levels of 0.5 ppb – that’s parts per billion!). The source of the hydrogen sulfide can be sulfide minerals such as marcasite and pyrite (FeS₂).

Saline spring waters typically contain dissolved chloride salts of sodium, calcium and/or magnesium. They have a strong salty taste, much like seawater.

Alkaline springs contain higher levels of alkalis or alkaline earth elements, such as sodium, potassium, lithium, calcium or magnesium ions, along with carbonate or hydroxide ions. Alkaline waters are more bitter and more basic (pH = 8 or higher) than other spring waters. Lithia springs contain lithium ions and calcic springs are high in calcium.

Soda springs contain excess dissolved carbon dioxide in the form of sodium carbonate or as the dissolved gas itself. At depth and under pressure, natural waters can dissolve carbon dioxide gas. Upon rising to the surface, some of these soda waters may effervesce (bubble up) like so much natural champagne, releasing bubbles of carbon dioxide. Carbonated water is also called “seltzer water.” Seltzer water originally referred to the effervescent mineral water obtained from the natural springs near the village of Niederselters in Germany but today seltzer water is produced artificially. Interestingly for mineralogists, the Yale chemistry professor Benjamin Silliman (for whom sillimanite was named) bottled and sold artificial seltzer water beginning in 1807. Flavored seltzer waters followed eventually leading to the flavored artificial mineral waters sold as Coca-Cola and Pepsi.

Spring water can be radioactive. Radon gas dissolves readily into groundwater but will rapidly escape from water on the Earth’s surface. “Radium springs” contain traces of radium derived from underground uranium or thorium deposits. One hundred years ago, radium was valued as a wonder drug reputed to cure many diseases including cancer. A mineral spring that contained traces of radium was thought to be particularly healthful. Radium Springs near Albany, Georgia, produced radium-laced water and became the site of a spa and a casino. Radium Springs, New Mexico, is a village of about 1700 people just northwest of Las Cruces.

Source:

*Dr. Andrew A. Sicree is a professional mineralogist and geochemist residing in Boalsburg, PA. This **Popular Mineralogy** newsletter supplement may not be copied in part or full without express permission of Andrew Sicree. **Popular Mineralogy** newsletter supplements are available on a subscription basis to help mineral clubs produce better newsletters. Write to Andrew A. Sicree, Ph.D., P. O. Box 10664, State College PA 16805, or call (814) 867-6263 or email sicree@verizon.net for more info.*

More Words to Dig By

Fossil: Farmers in medieval Europe dug trenches and ditches to drain rainwater off their fields. These trenches were called “fosses” after the Latin expression meaning “to dig.” Often enough, the ditch diggers uncovered what appeared to be ancient bones, teeth, or shells and called them “fossils” because they came from a fosse.

Erosion: Mice and other gnawing animals plagued the ancient Romans, and it is from their term *rodere*, “to gnaw,” that we derive the word “rodent.” Later, the alchemists experimented with acids and discovered that they would attack metals, slowly dissolving them. This slow corrosive action was labeled “erosion.” Geologist then adopted the term erosion to describe how glaciers, streams, and rivers gnawed away sediments and rocks.

Goldbrick: Goldbricking is the shirking of one’s duties, but the term had its origins during the Gold Rush days. An unscrupulous promoter would cover a block of lead with a layer of gold and offer it at a “discount” to unwary investors. The man who bought the “goldbrick” was cheated and the word came to be a verb meaning “to swindle.” During World War I, however, the term acquired a somewhat different meaning. A soldier who avoided doing his duty was called a “goldbrick.” The term retains its original meaning as a secondary definition.

Bonanza: Bonanza is another word that entered general use during the Gold Rush days. Derived from the Latin *bonus* for “good,” the word *bonanza* was coined by Spanish sailors to describe days of clear weather coming on the heels of a storm. The term came to mean any good fortune and was applied to very rich gold discoveries. Today, the term is applied to any source of great wealth.

Source: Ref.: Garrison, W., 445 Fascinating Word Origins (Galahad Books, N. Y. 2000) 248 pp. ©2011, Andrew A. Sicree, Ph.D.

Topeka Gem & Mineral Society Junior Rockhounds

Members of the Topeka Gem and Mineral Society are putting together the Junior Rockhounds group for the Junior members of our club. Goals are being set to have a “Training Aid Roundup” and getting classes started.

There has to be a **lot** of support from the adult members for the Junior group. First of all, there must be several people who are the specific advisors of the Juniors, and the younger parents have to do their parts to bring the youngsters to the meetings. (Car pools, maybe). The advisors must really be dedicated to what they are doing and willing to spend a lot of time planning opportunities for the Juniors, whether it be speakers for the meetings, field trips, special activities like rock swaps, ways for the youngsters to participate in the local show, and others. The older members of the club can support the Juniors with gifts of their time (to give programs), talents (to teach the various lapidary skills), and specimens (to be given as door prizes). Having a viable and active Junior group will not happen without the support of all of the members of the club, but what a great insurance policy this would be to ensure that the club would go on.

One of the givens in life is that children grow up, and Junior clubs are constantly losing the older members. So, another big job of the adult club is to keep up their efforts to attract young couples with children or young children with parents. (Many adults become interested in this hobby because of the fascination of their children.)

It is a way to keep the youth interested in our great hobby and we all can learn more by helping out. If those who can spare a few hours a month to help get this program off and running I’m sure it would benefit all of us.

Let Larry Henderson know if you are willing to help out with this program at LHenderson85@gmail.com or call him at [785-272-8444](tel:785-272-8444).

Junior Page

Mineral Identification

WORDS TO FIND:

acid apatite beryl calcite cleavage color crystal diamond fluorescence fluorite form fracture
gravity gypsum habit hardness heft luster mohs specific streak system talc topaz

F	R	A	C	T	U	R	E	Y	S	E	L	D	L	F	A	S	T	F	V
O	G	C	Y	A	S	Q	E	B	D	A	M	X	Z	D	O	X	F	Y	A
S	H	E	J	Z	L	P	N	C	T	V	F	M	E	T	S	Y	S	Z	P
X	A	M	O	D	T	D	I	S	K	L	L	G	M	T	U	Y	T	D	Q
M	R	Q	A	Z	K	F	Y	R	U	V	X	U	V	U	O	U	D	M	C
J	D	Z	J	T	I	R	A	O	F	Y	C	J	S	L	S	P	W	V	A
M	N	H	U	C	C	P	R	L	T	S	F	L	U	T	C	T	A	Z	L
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Z	E	N	T	D	N	O	M	A	I	D	Y	I	P	U	C	M	G	V	A
B	C	E	M	S	X	L	Y	R	E	B	V	B	F	T	G	A	B	E	V
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